

# **MONO AND DUAL CONJUGATION OF NANOSTRUCTURES AND METHODS OF MAKING AND USING THEREOF**

## **ABSTRACT**

Disclosed herein are molecular beacons comprising a quantum dot attached to a first end of at least one nucleic acid molecule having a probe and forms a stem-loop structure in the absence of a target sequence hybridized thereto and a quencher attached to a second end of the nucleic acid molecule. Also disclosed are methods for making the molecular beacons, molecular beacon arrays, and kits comprising the molecular beacons.